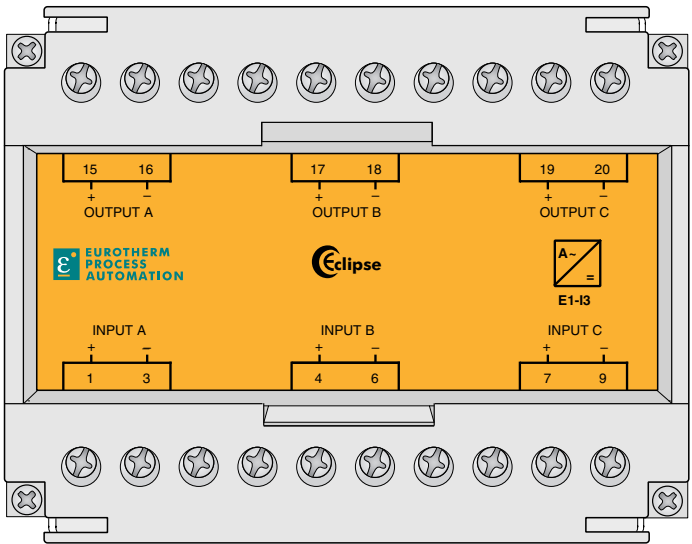




**EUROTHERM
PROCESS
AUTOMATION**

6000

SYSTEM

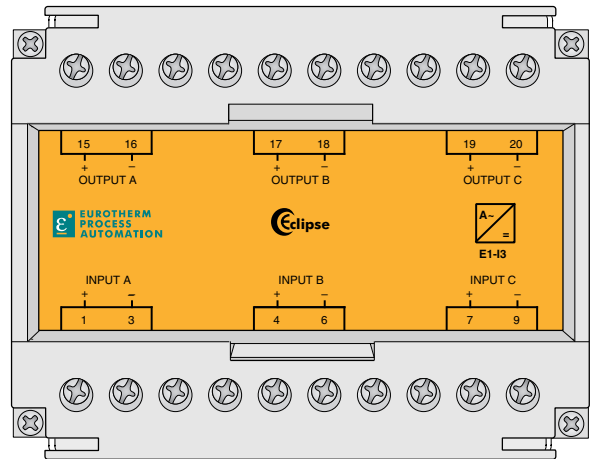


**Eclipse series
AC current
transducers**

**Product
Specification**

ECLIPSE SERIES AC CURRENT TRANSDUCERS

- Fully isolated and CE compliant
- Self- or auxiliary-powered
- High stability
- Full range of outputs
- RMS output
- Very low temperature coefficients



INTRODUCTION

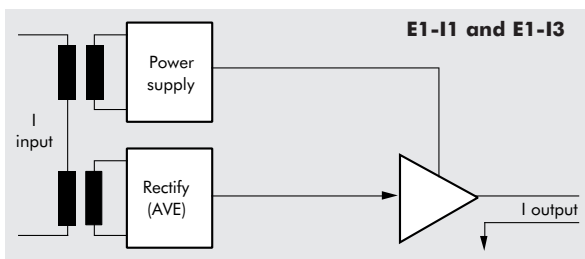
This series of current transducers converts an ac current into a standard dc signal. The current may be directly connected (up to 10A), or via a current transformer (1A or 5A). The average sensing units are rms calibrated for use with sine waves of less than 1% distortion. The rms sensing units measure the true rms

current. The self-powered unit obtains its power from the ac line being monitored and provides a range of zero-based current outputs. The auxiliary-powered units have been designed so that outputs of 4-20mA or 0-10V may be obtained.

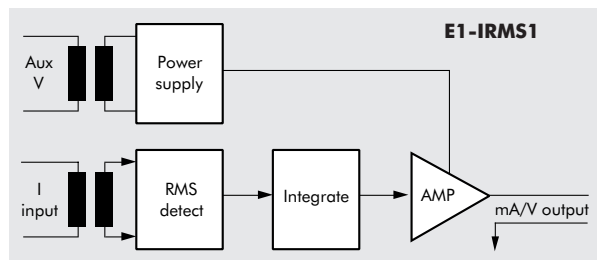
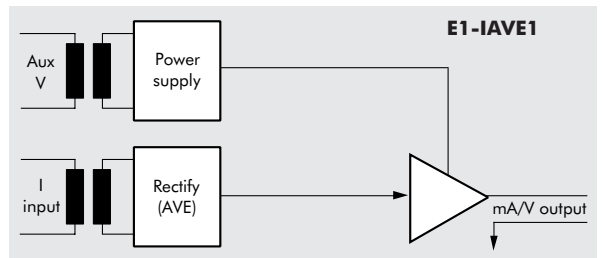
FUNCTIONAL DESCRIPTION

For the E1-I1, E1-I3 and E1-IAVE1 transducers the measured input is isolated and rectified to produce a proportional dc voltage. The amplifier, which is powered via an internal current transformer from the line being measured, provides the required output. The auxiliary-powered units perform in an identical manner, except that power for the output amplifier is drawn from a separate circuit, allowing both voltage and 'live' zero outputs.

The E1-RMS1 transducers are true rms, capable of handling badly distorted waveforms with harmonics.



Self-powered units



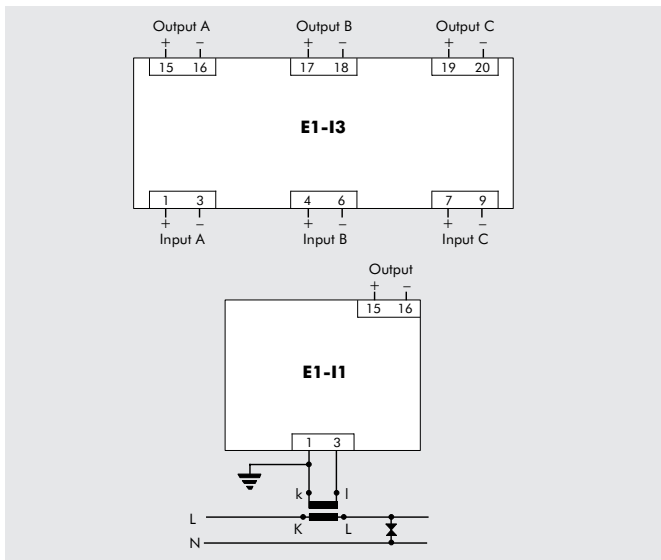
Auxiliary-powered units

STANDARDS

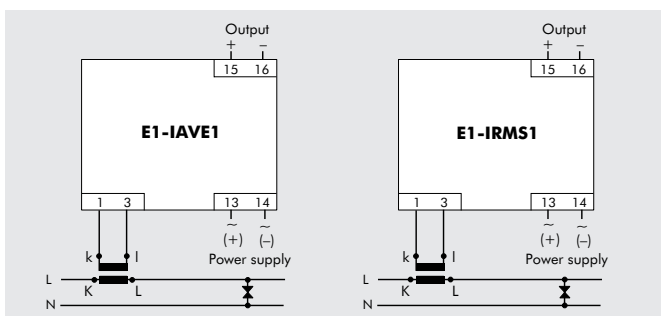
CE Conforms to EMC Directive 89/336/EEC amended by 93/68/EEC and Low Voltage Directive 72/23/EEC

BS EN 60688:1992	Designed to comply with Electrical measuring transducers for converting ac electrical quantities to analogue or digital signals.
IEC414:1979	Safety, high voltage insulation
IEC521:1988	Impulse voltage 5kV waveform 1,2/50uS
IEC255-21-1/3	High frequency disturbance 2.5kV common, 1kV series mode
EN50081-2	Emissions:- Industrial
EN50082-2	Immunity:- Industrial

CONNECTION AND INSTALLATION



Self-powered units



Auxiliary-powered units

WARNING: Current inputs may be direct or CT connected and for safety reasons one side of the CT secondary should be earthed. We recommend that the auxiliary supply should be fused.

It is recommended that the transducer is housed in an enclosure (e.g. Control Panel) that does NOT allow unauthorised access as high voltages can be present on the terminals.

SPECIFICATIONS

	Self-powered	Auxiliary-powered
Inputs	0-1A 0-5A 0-10A	0-1A 0-5A 0-10A
Overload:	2 × I _n continuous 5 × I _n 5 secs 20 × I _n 1 sec	2 × I _n continuous 4 × I _n 10 secs 20 × I _n 1 sec
Burden:	3.5VA	1VA
No of circuits:	1 or 3	1
Measuring range:	10-150% (I ₁ , I ₃)	0-120%
Standard frequency range:	45-55Hz	45-55Hz

	Self-powered	Auxiliary-powered
Outputs	0-1mA into 15kΩ 0-10mA into 1k5Ω 0-20mA into 750R	0-1mA into 10kΩ 0-10mA into 1kΩ 0-20mA into 500Ω 4-20mA into 500Ω 0-10V into 2kΩ min
Accuracy:	Class 0.5 (<5% nominal I Class 1.0)	Class 0.5
Isolation test:	2kV for 1 minute	2kV for 1 minute

Drive capability

Current:	20mA	20mA
Voltage:	15V	10V

General specifications

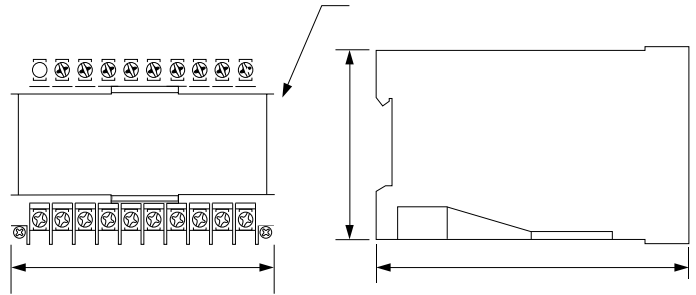
Temperature range:	-10 to +60°C	-10 to +60°C
Temperature drift:	0.005%/°C	0.02%/°C
Ripple:	<2% peak-to-peak	<1% peak-to-peak
Stability:	±0.05% per annum non-accumulative	±0.05% per annum non-accumulative
Response:	0-90% in 450ms	0-90% in 300ms
Storage temperature:	-40 to 70°C	-40 to 70°C
Humidity:	Up to 90% non-condensing	Up to 90% non-condensing

Mechanical

Weight:	375gm (1 circuit) 680gm (3 circuits)	305gm (E1-IAVE1) 435gm (E1-IRMS1)
Dimensions:	55W × 70H × 114D mm (1 circuit) 100W × 70H × 114D mm (3 circuits)	55W × 70H × 114D mm
Housing:	Moulded grey ABS plastic case self extinguishing to VDE0304 Degree 1, with moulded polycarbonate terminal assembly. The case is snap mounting on top-hat rail DIN 4677-3 (CENELEC EN 50-022). On the 55mm wide housing, screw mounting is only available on request. On other sizes of housing, it is standard.	

E1-I1
 E1-IAVE1
 E1-IRMS1

E1-I3



Auxiliary-powered current transducer

Base unit	Input range	Input frequency	O/P range & units	Auxiliary supply	Options
E1-IRMS1	5A	50Hz	4-20mA	230V	∅

Examples